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**Central and Arctic Region** | **Région du Centre et de l'Arctique**

# Proceedings of the Regional Science Advisory Process on the Recovery Potential Assessment of Lake Chubsucker (*Erimyzon sucetta*)

**9 March 2011**

**Burlington Art Centre**
**1333 Lakeshore Road**
**Burlington, ON**

**Lynn Bouvier**
**Meeting Co-chairperson**

**Nicholas Mandrak**
**Meeting Co-chairperson**

# Compte rendu du processus de consultation scientifique régional sur l'évaluation du potentiel de rétablissement du sucet de lac (*Erimyzon sucetta*)

**le 9 mars 2011**

**Burlington Art Centre**
**1333, Chemin Lakeshore**
**Burlington (Ont.)**

**Lynn Bouvier**
**Co-présidente**

**Nicholas Mandrak**
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**August 2011** | **Août 2011**

Canada

## Foreword

The purpose of these Proceedings is to document the activities and key discussions of the meeting. The Proceedings include research recommendations, uncertainties, and the rationale for decisions made at the meeting. Proceedings also document when data, analyses or interpretations were reviewed and rejected on scientific grounds, including the reason(s) for rejection. As such, interpretations and opinions presented in this report individually may be factually incorrect or misleading, but are included to record as faithfully as possible what was considered at the meeting. No statements are to be taken as reflecting the conclusions of the meeting unless they are clearly identified as such. Moreover, further review may result in a change of conclusions where additional information was identified as relevant to the topics being considered, but not available in the timeframe of the meeting. In the rare case when there are formal dissenting views, these are also archived as Annexes to the Proceedings.

## Avant-propos

Le présent compte rendu a pour but de documenter les principales activités et discussions qui ont eu lieu au cours de la réunion. Il contient des recommandations sur les recherches à effectuer, traite des incertitudes et expose les motifs ayant mené à la prise de décisions pendant la réunion. En outre, il fait état de données, d'analyses ou d'interprétations passées en revue et rejetées pour des raisons scientifiques, en donnant la raison du rejet. Bien que les interprétations et les opinions contenues dans le présent rapport puissent être inexactes ou propres à induire en erreur, elles sont quand même reproduites aussi fidèlement que possible afin de refléter les échanges tenus au cours de la réunion. Ainsi, aucune partie de ce rapport ne doit être considérée en tant que reflet des conclusions de la réunion, à moins d'indication précise en ce sens. De plus, un examen ultérieur de la question pourrait entraîner des changements aux conclusions, notamment si l'information supplémentaire pertinente, non disponible au moment de la réunion, est fournie par la suite. Finalement, dans les rares cas où des opinions divergentes sont exprimées officiellement, celles-ci sont également consignées dans les annexes du compte rendu.

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## SUMMARY

A regional science peer-review meeting was held on 9 March 2011 in Burlington, Ontario. The purpose of the meeting was to assess the recovery potential of Lake Chubsucker (*Erimyzon sucetta*) based on the 17 steps outlined in the Fisheries and Oceans Canada (DFO) Recovery Potential Assessment (RPA) framework. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has designated Lake Chubsucker as Endangered (November 2008). It is currently listed on Schedule 1 of the *Species at Risk Act* (SARA) as Endangered. The resulting RPA Science Advisory Report will provide the information and scientific advice required for the Department to meet various requirements of SARA for this species including listing decisions, authorizations to carry out activities that would otherwise violate the SARA and development of recovery strategies. Meeting participants included experts from DFO, Long Point Conservation Authority, Point Pelee National Park, and Ontario Ministry of Natural Resources.

This Proceedings report summarizes the relevant discussions and presents revisions to be made to the associated research documents. The Science Advisory Report and the supporting Research Documents, resulting from this advisory meetings, are published on the DFO Canadian Science Advisory Secretariat Website at http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm.

## SOMMAIRE

Une réunion régionale d'examen scientifique par des pairs a eu lieu le 9 mars 2011 à Burlington, en Ontario. Le but de cette réunion était d'évaluer le potentiel de rétablissement du sucet de lac (*Erimyzon sucetta*) selon les 17 étapes décrites dans le cadre d'évaluation du potentiel de rétablissement (EPR) de Pêches et Océans Canada (MPO). Le Comité sur la situation des espèces en péril au Canada (COSEPAC) a statué que le sucet de lac était une espèce en voie de disparition (novembre 2008). L'espèce est actuellement inscrite à l'Annexe 1 de la *Loi sur les espèces en péril* (LEP) comme étant en voie de disparition. L'avis scientifique découlant de l'EPR fournira l'information et l'avis scientifiques dont le Ministère a besoin pour respecter les diverses exigences de la LEP pour cette espèce, y compris la prise de décisions quant à son inscription, l'autorisation de mener des activités qui, autrement, iraient à l'encontre de la LEP ainsi que l'élaboration de programmes de rétablissement. Parmi les participants à la réunion, mentionnons des experts du MPO et des représentants de la Long Point Conservation Authority, du Parc national de la Pointe-Pelée et du ministère des Richesses naturelles de l'Ontario.

Le présent compte rendu résume les discussions tenues et expose les révisions à apporter aux documents de recherche connexes. L'Avis scientifique et les documents de recherche à l'appui découlant de la présente réunion de consultation scientifique seront publiés sur le site Web du Secrétariat canadien de consultation scientifique du MPO à l'adresse suivante : http://www.dfo-mpo.gc.ca/csas-sccs/index-fra.htm.

## INTRODUCTION

In April 1994, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designated Lake Chubsucker (*Erimyzon sucetta*) as Special Concern. The status was re-examined in November 2001 when it was uplisted to Threatened. The status was once again examined in November 2008 when it was re-designated as Endangered (COSEWIC 2008). The reason for designation being that this species has a very restricted geographic Canadian range with small extant population having very specific and narrow habitat preferences. Lake Chubsucker is now listed on Schedule I of the *Species at Risk Act* (SARA) as Endangered.

The purpose of the meeting, as described in the Terms of Reference (Appendix 1), was to assess the recovery potential of Lake Chubsucker. The RPA is a science-based peer review process that assesses the current status of the species by addressing the 17 steps in the Recovery Potential Assessment (RPA) framework outlined in (DFO 2007). The current state of knowledge about habitat requirements, threats to both habitat and Lake Chubsucker, and measures to mitigate these impacts, is included in the Science Advisory Report. A peer-review meeting was held at the Burlington Art Centre, Burlington, Ontario on 9 March 2011 to discuss the Lake Chubsucker RPA. Meeting participants included Fisheries and Oceans Canada, Long Point Conservation Authority, Point Pelee National Park, and the Ontario Ministry of Natural Resources (Appendix 2). The meeting followed the agenda outlined in Appendix 3.

This proceedings report summarizes the relevant discussions from the peer-review meeting and presents revisions to be made to the associated research documents. The Research Documents (Bouvier and Mandrak 2011; Young and Koops 2011) provide information on the working papers presented at the workshop; the Science Advisory Report summarizes the current understanding of the distribution and habitat requirements of this species, along with recovery targets and times to recovery, while considering various management scenarios (DFO 2011).

## DETAILED DISCUSSION

The meeting co-chair provided the participants with an introduction to the SARA listing and RPA processes. He explained how the RPA will be used, as well as the objectives of the meeting. A draft RPA, in the form of two working papers, had been developed by DFO and provided to participants in advance of the meeting. The draft reports were the basis for discussion and participants were encouraged to add to or change the material as needed to ensure that the best, most accurate information was included.

### SPECIES DESCRIPTION AND HABITAT REQUIREMENTS

Presenter: Lynn Bouvier

The presentation included a description of Lake Chubsucker, its life cycle, and the habitat requirements for three life stages [young-of-the-year (YOY), juvenile, adult].

A participant asked whether turbidity values had been collected with the YOY sampled at Turkey Point in the summer of 2010. A participant, familiar with the area, provided a descriptive narrative of the site but did not know what the turbidity levels were at the time of collection. It was decided to follow up with an outside source (the person who had originally collected the samples) regarding whether additional turbidity information was available.

A question was raised as to whether it was possible that the historic Lake Chubsucker samples collected from the upper tributaries of Big Creek could have possibly been Creek Chubsucker, since the area is colder than Lake Chubsucker typically inhabit. The habitat in the upper tributaries of Big Creek was considered by one participant to be more similar to Creek Chubsucker preferred habitat. It was agreed that confirmation was needed, and that Erling Holm (Royal Ontario Museum) would be contacted to verify the museum specimens. During this discussion it was also noted that DFO Science needed to fill the information gap related to temperature tolerances for all Lake Chubsucker life stages.

**RECOVERY TARGETS**
Presenter: Marten Koops

The presentation on recovery targets discussed recovery target approaches, minimum viable population (MVP) criteria, the selection process for minimum viable population criteria, the effect of catastrophes, extinction thresholds, and habitat targets.

During a discussion of the risk of extinction resulting from catastrophe, a participant asked if the calculations were made on a per-location or on a per-population basis. The presenter confirmed that they were made per population, and that it is unknown if there are numerous populations at one location. It was noted that it is important to make the distinction between populations and locations as these two terms have different meanings.

Another question was raised about population density in the calculation of extinction thresholds. A participant noted that, for a widely distributed population, the risk of extinction would be higher since individuals would find it harder to find each other for reproductive purposes. The presenter responded that those sorts of effects had not been included in the simulations, meaning that habitat was assumed not to be a limiting factor, but if incorporated would increase the MVP.

Another participant then asked if a widely distributed population would decrease the likelihood of extinction from a catastrophic event. The presenter responded that it would depend on the size of the event, but that it could protect a population.

There was some discussion surrounding assumptions made during calculations and simulations, but no changes were made to the research document.

The conversation on the Lake Chubsucker winterkill that occurred in the OAC resurfaced. There was quite a bit of discussion related to various hypotheses on what had caused the winterkill, and whether or not the fish were moving to over-wintering areas. Through this discussion another knowledge gap was raised: scientists were unsure as to whether the species was leaving the system or becoming trapped under the ice. It was decided to include this as one of the sources of uncertainty.

In the discussion of habitat targets, a participant asked if the presenter had criteria for both spawning and adult Lake Chubsucker. The presenter responded that both were accounted for. There was some discussion surrounding overwintering habitat and problems of relocation. However, no changes were made to the research document.

In the conclusions section of the presentation, participants asked for clarification on how the minimum area for population viability (MAPV) was determined. The presenter explained that it was calculated by first establishing the desired population of Lake Chubsucker.

A participant asked whether or not there was a way of knowing if the habitats used for each life stage were mutually exclusive, or if it was possible that there was overlap between life stages. The presenter responded that competitive effects could occur between cohorts. He concluded that they would need to determine what kind of interactions were possible between life stages and explore that dynamic.

A participant also noted that for previous recovery potential assessment a different value was provided for lacustrine and riverine populations. The presenter responded that this was not done for Lake Chubsucker as they are typically only found in lacustrine systems and are not generally considered to be a riverine species.

**POPULATION STATUS**
Presenter: Lynn Bouvier

The presentation on population status included population distribution, abundance and trajectory of the Lake Chubsucker, as well as the certainty that the researchers had of the information's accuracy.

During the conversation surrounding distribution, a participant who surveyed Point Pelee expressed unfamiliarity with the record dated 1993. The presenter agreed to double-check the record's validity and make any necessary changes in the next version of the research document.

Methods of sampling and calculation were discussed. A participant recommended that the listed densities should be revisited and that they should be partitioned according to life stage.

During the discussion of Point Pelee, a participant suggested that the population trajectory be changed from "unknown" (considered to be the worst-case scenario) to "declining." The reason for this suggestion was that the population in Lake Pond, a significant portion of the overall population, had been lost. The question surrounding the 1993 Point Pelee record was raised, but participants agreed that it was unlikely to affect the evaluation, the population trajectory for Point Pelee was therefore changed to "decreasing".

Participants were not comfortable with the final population status for L Lake being "fair" and not "good". It was explained that although L Lake is considered to be the healthiest population that this conclusion is based on only two sampling points, and therefore, trajectory could only be classified as "unknown". It was agreed that a footnote and additional text would indicate that, based on the research, L Lake had the healthiest population, however, more sampling was needed to fully assess the trajectory.

**THREAT STATUS**
Presenter: Lynn Bouvier

The presentation on threat status provided an overview of the likelihood and impact of threats, as well as the certainty associated with threat impact. It was established that threat likelihood (TLH) was categorized as "known" (K), "likely" (L), "unlikely" (U), or "unknown" (UK); threat impact (TI) was categorized as "high" (H), "medium" (M), "low" (L), or "unknown" (UK). The certainty associated with threat impact (C) would be categorized as 1 (derived from causative studies), or 2 (derived from correlative studies), or 3 (expert opinion).

**Old Ausable Channel**

There was some discussion surrounding turbidity and sediment loading and nutrient loading in the Old Ausable Channel. It was noted that above and below the dam there are different threats: closer to Grand Bend there is more turbidity and back flushing. The participants decided to change the TI from H to L for turbidity and sediment loading. For nutrient loading, the TI was changed from M to H due to a bad filamentous algae problem in the summer.

A participant also raised the point that a shift in trophic dynamics (specifically, a shift to an assemblage composed of a greater number of piscivores) may be an additional threat within the channel. Some possible reasons for the shift were discussed, but it was determined that the underlying cause was not known at that time. It was resolved that research into the threat "Shifts in Trophic Dynamics" would be undertaken and information related to this threat would be added to the research document if evidence from the literature could be found to support its addition.

**L Lake**

In the discussion of L Lake, the removal of beaver dams was mentioned. The participants agreed to add information on beaver dams in the habitat modifications section of the threat descriptions, and that both Old Ausable Channel and L Lake could be used as examples.

During the review of nutrient loading in L Lake, a participant noted that septic systems in the area were not so abundant that they were likely to threaten the water body. It was decided to change the TLH of nutrient loading from UK to U.

**Lake St. Clair**

The discussion of Lake St. Clair followed. A participant stated that, because of the size of the lake, only a large-scale modification would have an impact on the area. The chance of that happening was likely low. The group reviewed the impact of shipping to the habitat, but agreed that the greatest threat was substance leakage, which should be categorized under contaminants and toxic substances. For the category of habitat modifications, the TLH was changed from K to U, but the TI was kept as H.

**Walpole Island (dyked marshes)**

The analysis of Walpole Island revealed that many of the factors contributing to the threat of Lake Chubsucker in that area were unknown. A participant noted that Erling Holm (Royal Ontario Museum) may be able to shed some light on the threats affecting Walpole Island as he did surveys in that area in the 1990s. It was agreed that he should be contacted for further information.

**St. Clair National Wildlife Area (NWA)**

In the review of St. Clair NWA, a participant asked what constituted the known habitat modifications to the area. The presenter responded that a drawdown occurs there every year. After some discussion on the matter, it was determined that, due to small sample numbers, the impact of the drawdown on the Lake Chubsucker was uncertain. The participants decided to change the TI from K to M and add text to the research document about drawdowns.

**Point Pelee National Park**

During the discussion of Point Pelee National Park, the classification of habitat modifications was reviewed. Although there were no current modifications to the area, a participant noted that two of the ponds had a potential to breech, which could modify the habitat. It was determined that more data were required to evaluate the causes and impact of breeching. A participant volunteered to share relevant data after the meeting.

In the review of turbidity and sediment loading for the area, participants agreed to refer to an outside resource to gather more data on water quality and fish living in ponds. The TLH was changed from K to L because the phenomenon was likely to occur in Lakepond. During the analysis of nutrient loading, the participants debated whether or not to include Lakepond in their report. It was determined that an outside report should be consulted and that, if new information was to be included in the research document, all participants would be consulted through a conference call. The group agreed to change the TI of nutrient loading in the area from K to M.

A participant stated that DDT pucks were historically used in Point Pelee National Park for mosquito control. It was also noted studies have indicated that the marsh was the least impacted. The decision was made to change TLH to K and to check the aforementioned report for the TI level.

**Rondeau Bay**

The analysis of Rondeau Bay followed. During the review of nutrient loading, a participant noted that there are agricultural drains in the area. It was agreed to change the TI from H to M. The participants also decided to add a reference to the cell addressing contaminants and toxic substances in the water.

During the discussion of exotic species, the question was raised as to whether or not *Phragmites* were being considered as part of the category. The participants agreed to add section text in the exotic species section to discuss the effects of non-native aquatic macrophytes, such as *Phragmites*. It was decided that both Rondeau Bay and Point Pelee National Park could be used as examples in this section of the text.

**Big Creek (undyked)**

At the beginning of the Long Point Bay analysis, the presenter noted that the area had been split into three sections: Big Creek, Turkey Point Marshes and Long Point National Wildlife Area.

There was some discussion surrounding habitat modification to Big Creek. It was suggested that the research document should include a note in the comments that stated that habitat modification may include a combination of factors, such as turbidity, nutrients and exotics. However, further research was required before the change would be made. Participants agreed to change the TI of exotic species from K to H.

**Turkey Point marshes**

After a brief discussion of turbidity and sediment loading in Turkey Point Marshes, the decision was made to include a note in the text about the different kinds of sedimentation in the area. The TI of exotic species was changed from M to H.

**Long Point Inner Bay**

In the review of incidental harvest, a participant stated that a Lake Chubsucker had been seen in a nearby fish market (there is a live trap fishery in the inner bay of Long Point). The TLH was therefore changed from U to L.

**Long Point NWA**

During the analysis of Long Point Bay National Wildlife Area, the presenter asked about *Phragmites* in the water. A participant responded that they were causing problems and impacting much of the habitat, as well as possibly affecting water movement into the ponds. The TI was consequently changed from M to H.

**Big Creek (dyked)**
Big Creek was the next water body to be reviewed. A brief discussion of habitat modifications took place: because the dyke, a historic modification, had an impact on the population, the TLH was changed from U to K.

**Lyons Creek**
During the review of habitat modifications to Lyons Creek, a participant asked why the TI was L. Another responded that there was a restriction on dredging for a section of the creek. A third pointed out that this system has lost its entire headwater and that flow is being pumped into the canal. Consequently, the TI was changed from L to H.

A very brief discussion around the presence of ships in the waterway resulted in the analysis of turbidity and sediment loading being changed: the TLH was changed from L to K and TI from L to H.

The TI of nutrient loading was also changed from L to M, due to a steel plant and a compost facility in the region.

During the review of exotic species, a participant noted that there are Rudd in the water body. The decision was made to change the TLH to K and to keep the TI as L.

Following these reviews, the presenter confirmed that the analysis matrices in the research document would be revised according to the group's discussions.

The participants then reviewed the overall threat to the Lake Chubsucker. One raised the issue that barriers to movement (e.g., dykes) was listed under threats in the Recovery Strategy but was not discussed in the RPA threat analysis. The presenter responded that research had suggested that barriers to movement did not pose much of a threat to the populations but could be considered an advantage to them. A third added that this statement is true for the most part, but does not consider the issue of gene flow. The presenter suggested the additional research of the information provided in the literature be completed after the meeting and a decision would be made as to whether or not the treat of barriers to movement warranted mention in the research document.

**ALLOWABLE HARM**
Presenter: Jennifer Young

The presentation on allowable harm covered the life cycle of the Lake Chubsucker, parameter estimates of its life history, sensitivity and allowable harm, recovery times and strategies, habitat requirements and density dependence, and uncertainties of the current research.

During the review of parameter estimates, the presenter stated that it was necessary to add a note explaining that the fecundity value was half of the total because it only takes female Lake Chubsucker into account. No other issues were raised.

**SCIENCE ADVICE ON ALLOWABLE HARM**
Presenter: Jennifer Young

The presenter reviewed the advice that was determined from the mathematical analyses. A participant mentioned that there was a question about providing a more accessible summary of

the mathematical findings discussed in the Allowable Harm section of the presentation. That summary was to be included in Science Advisory Report related to the meeting.

Another participant raised the issue that allowable harm can only be assessed after a trajectory is known. In cases where the trajectory is not known, one should not allow harm. Some discussion surrounding the definition of harm followed, with mortality and negative effects on fecundity being listed. However, no changes were made to the research document.

**RECOVERY PROJECTIONS**
Presenter: Jennifer Young

The presentation on recovery projections addressed recovery targets, strategies and times, as well as the topic of additional harm. None of the participants suggested edits to the research document.

**REQUIRED HABITAT AND DENSITY**
Presenter: Jennifer Young

The presentation on required habitat and density covered required habitat, extinction risk with density dependence, and population size with density dependence. The participants had nothing to add to the presentation.

**ALTERNATIVES TO ACTIVITIES / FEASIBLE MITIGATION METHODS**
Presenter : Nick Mandrak

The presentation addressed the Pathways of Effect (PoE), alternatives to activities which cause harm to Lake Chubsucker, and methods of mitigating harmful effects.

The presenter noted that there was not a lot that the group needed to do to review the Pathways of Effect (PoE) section because the document had been peer reviewed and published, but comments and concerns were invited.

A participant asked if the model was comprehensive of all things impacting the Lake Chubsucker. The presenter explained the uses of the model, which sparked some conversation, but led to no changes in methodology.

Another participant noted that, because SARA is so species-specific, one might have to compromise one species to make a positive change for others. The presenter responded that, when looking at mitigations or alternatives, one may have to consider all the species in the area and the direct and indirect effects of those mitigations or alternatives.

During the discussion of exotic species, a participant asked if the term 'exotic' meant 'non-native.' The presenter responded in the affirmative, specifying that the term meant non-native to the ecosystem being considered. The presenter suggested that a definition of exotic species be added to the threats section of the document to increase clarity on exactly what is being considered.

Another participant raised the issue of non-native macrophytes, saying that removal of non-native macrophyte species could constitute removal of habitat. The presenter suggested that the research document include a proviso stating that the removal of non-native macrophytes may impact habitat and should be considered.

In the review of mitigation of incidental harvest, a participant noted that Ontario fishery regulations should be included. The group agreed to add education through mandatory training to the list of recommendations.

**SOURCES OF UNCERTAINTY**
Presenter: Lynn Bouvier

The presentation addressed sources of uncertainty related to population structure, habitat requirements, threats to Lake Chubsucker, and population modelling.

It was suggested and agreed that the research document should include non-point sources of nutrient and sediment inputs.

A participant recommended that the habitat requirements be clarified, but a lack of data made that elaboration impracticable.

**SUMMARY OF DISCUSSION**
Presenter: Nick Mandrak

The presenter gave an overview of the information discussed over the course of the meeting.

Early in the presentation, the participants noted that it might be possible to add information about juveniles from the previous year's sampling.

In the review of recovery targets, the participants agreed that the summary should include the 1.5 MAVP and the 50 adult estimate from the analysis.

The wording under Threat Status was changed slightly to be more reflective of the discussions that had taken place.

A participant noted that there should be a section in the research document that discusses the effect of cumulative impacts. The presenter responded in saying that such section does exist in the research document explaining that the effect of each threat is handled separately because the cumulative impact of the threats is not known and would be difficult to evaluate.

In the review of allowable harm, a participant noted that the most sensitive stages needed to be explicitly stated. It was also noted that the term 'total harm' needed to be clarified.

During a discussion of habitat needs by life stage, a participant asked if field biologists had taken samples of ripe Lake Chubsucker. The presenter responded that sampling typically does not occur that early in the year. It was noted that researchers need to pit tag some of the Lake Chubsucker collected.

The author stated that she would modify the documents from the meeting in accordance with the groups' comments. The participants would have two weeks to review the changes before the final draft was submitted.

## REFERENCES


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**Appendix 1. Terms of Reference**

# Terms of Reference

## Recovery Potential Assessment of Lake Chubsucker

**Regional Advisory Meeting**

Burlington Art Centre, Burlington, ON

9 March 2011

Co-chairs: Lynn Bouvier and Nicholas Mandrak

### Context

In April 1994, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designated Lake Chubsucker as Special Concern. The status was re-examined in November 2001 when it was uplisted to Threatened. The status was once again examined in November 2008 when it was re-designated as Endangered. The reason for designation being that this species has a very restricted geographic Canadian range with small extant population having very specific and narrow habitat preferences. Lake Chubsucker was subsequently added to Schedule I of the *Species at Risk Act* (SARA).

Fisheries and Oceans Canada (DFO) Science has been asked to undertake a Recovery Potential Assessment (RPA) for Lake Chubsucker. DFO Science developed the RPA framework to provide the information and scientific advice required for the Department to meet various requirements of SARA including listing decisions, authorizations to carry out activities that would otherwise violate SARA and the development of recovery strategies. The RPA may be used to inform both scientific and socio-economic elements of the listing decision, as well as development of a recovery strategy and action plan, and to support decision-making with regards to the issuance of permits, agreements and related conditions, as per section 73, 74, 75, 77 and 78 of SARA.

This advisory meeting is being held to assess the recovery potential of Lake Chubsucker. The resulting RPA Science Advisory Report will summarize the current understanding of the distribution, abundance and trend of this species, along with recovery targets and times to recovery while considering various management scenarios. The current state of knowledge about habitat requirements, threats to both habitat and Lake Chubsucker, and measures to mitigate these impacts, will also be included in the Science Advisory Report.

### Objectives

The intent of this meeting is to assess the recovery potential of Lake Chubsucker using the RPA framework outlined in the Revised Protocol for Conducting Recovery Potential Assessments (available at: http://www.dfo-mpo.gc.ca/csas/Csas/status/2007/SAR-AS2007_039_e.pdf). The advice will be provided to the DFO Minister for her consideration in meeting various requirements of SARA for this species.

## Expected publications

The meeting will generate a proceedings report summarizing the deliberations of the participants. This will be published in the Canadian Science Advisory Secretariat (CSAS) Proceedings Series. There will be CSAS Research Document(s) produced from the working paper(s) presented at the meeting. Advice from the meeting will be published in the form of a Science Advisory Report.

## Participation

Experts from DFO, Ontario Ministry of Natural Resources, Royal Ontario Museum, Parks Canada, and conservation authorities have been invited to this meeting. Participants will not exceed a maximum of 15 people.

**Appendix 2. Meeting Participants**

## Recovery Potential Assessment of Lake Chubsucker (*Erimyzon sucetta*)

**Regional Advisory Meeting – Central and Arctic Region**

Burlington Art Centre, Burlington, ON

9 March 2011

**LIST OF PARTICIPANTS**

| Last Name | First Name | Affiliation |
|---|---|---|
| Bouvier | Lynn | Fisheries and Oceans Canada Science |
| Gagnon | Paul | Long Point Conservation Authority |
| Koops | Marten | Fisheries and Oceans Canada Science |
| Mandrak | Nick | Fisheries and Oceans Canada Science |
| Marson | Dave | Fisheries and Oceans Canada Science |
| McKay | Vicki | Point Pelee National Park |
| Sinnatamby | Nilo | Note taker |
| Stackhouse | Jarrod | Fisheries and Oceans Canada Science |
| Staton | Shawn | Fisheries and Oceans Canada Species at Risk |
| Yagi | Anne | Ontario Ministry of Natural Resources |
| Young | Jen | Fisheries and Oceans Canada Science |

**Appendix 3. Agenda**

## Recovery Potential Assessment– Lake Chubsucker
## Regional Peer Review Meeting – Central and Arctic Region

**Burlington Art Centre**
**1333 Lakeshore Road**
**Burlington, ON**

**9 March 2011**

**Co-chairs: Lynn Bouvier and Nicholas Mandrak**

**9 March (Wednesday)**

| | | |
|---|---|---|
| 9:00 | Welcome and Introductions | Nick Mandrak |
| 9:15 | Purpose of Meeting | Nick Mandrak |
| 9:30 | Species Status and Habitat Requirements | Lynn Bouvier |
| 9:45 | Recovery Targets | Marten Koops |
| 10:30 | Break (refreshments provided) | |
| 10:45 | Population Status | Lynn Bouvier |
| 11:15 | Threats | Lynn Bouvier |
| 12:00 | Lunch (provided) | |
| 12:45 | Threats (continued) | Lynn Bouvier |
| 1:30 | Allowable Harm | Jennifer Young |
| 2:30 | Break (refreshments provided) | |
| 2:45 | Recovery Projections | Jennifer Young |
| 3:45 | Alternatives to Activities/Feasible Mitigation Methods | Nick Mandrak |
| 4:15 | Summary and Wrap-up | Nick Mandrak |